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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/645,603	08/22/2003	Tatsuya Fujii	R2180.0174/P174	8569
24998	7590	01/17/2006	EXAMINER	
DICKSTEIN SHAPIRO MORIN & OSHINSKY LLP			RILEY, SHAWN	
2101 L Street, NW			ART UNIT	
Washington, DC 20037			PAPER NUMBER	
			2838	

DATE MAILED: 01/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/645,603	Applicant(s) FUJII, TATSUYA	
	Examiner Shawn Riley	Art Unit 2838	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
 4a) Of the above claim(s) 5 and 10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-9 and 11-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Restriction

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-4, 6-9 and 11-16, drawn to power supply with a series regulator, classified in class 323, subclass 268.
- II. Claims 5 and 10, drawn to power supply to power plural loads, classified in class 323, subclass 267.

Inventions I and II are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention II has separate utility such as powering plural loads. See MPEP § 806.05(d).

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

A telephone call was made to the office of Thomas D'Amico on Tuesday, December 13, 2005 to request an oral election to the above restriction requirement. Attorney Gianni Minutoli Reg. No. 41,198 returned the examiner's call and stated he would elect group I without traverse to prosecute the invention of claims 1-4, 6-9 and 11-16.

Affirmation of this election must be made by applicant in replying to this Office action. Claims 5 and 10 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. E.g., Parallel Connected Switched Regulator and Linear Regulators.

Claim Rejections - 35 U.S.C. § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 3718 of this title before the invention thereof by the applicant for patent.

2. Claims 1-4, 6-9 and 11-16 are rejected under 35 U.S.C. §102(e) as being fully anticipated by Hiraki et al (U.S. Patent 6,424,128). Hiraki et al shows,¹ (in, e.g., the(ir) figure 7 and corresponding disclosure)

¹ Note claims will be addressed individually and the material in parentheses are the examiner's annotated comments. Further unless needed for clarity reasons, recited limitation(s), will be annotated only upon their first occurrence. Annotated claims begin with the phrase "As to claim". Claims that are not annotated are seen as having already had the invention(s) addressed previously in an annotated claim. Bolded words/phrases indicate rejected material based 112 paragraph rejections. Underlined words/phrases indicate objected to material. For method claims, note that under MPEP 2112.02, the principles of inherency, if a prior art device, in its normal and usual operation, would necessarily perform the method claimed, then the method claimed will be considered to be anticipated by the prior art device. When the prior art device is the same as a device described in the specification for carrying out the claimed method, it can be assumed the device will inherently perform the claimed process. In re King,

As to claim 1;

A power supply apparatus, comprising: a switching regulator (120) which performs start and stop operations in response to a first control signal (S101) and generates a first constant voltage (Vddi) in response to a first voltage switching signal (121/S113) to output the first constant voltage (Vddi); a series regulator (150) which performs start and stop operations in response to a second control signal (S116/102) and generates a second constant voltage in response to a second voltage switching signal (S116/output of 113) to output the second constant voltage (Vdda); and a controller (CPU) which generates the first and second control signals and the first and second voltage switching signals, controls the switching regulator and the series regulator to simultaneously operate for at least a predetermined time (see, e.g., table 4 wherein switching regulator and 2nd series regulator operate simultaneously) period using the first and second control signals, respectively, and controls the switching regulator and the series regulator such that the first output voltage of the switching regulator is greater (column 10 line 12-line 26) than the second output voltage of the series regulator using the first and second voltage switching signals.

As to claim 2;

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The power supply apparatus as defined in claim 1, wherein the controller generates a third control signal (see, e.g., figure 7 and output of 113 into 140) and a third voltage switching signal.

As to claim 3;

The power supply apparatus as defined in claim 2, wherein the series regulator includes a plurality of series regulators (see, e.g., figure 7) and the controller selectively activates the plurality of series regulators (see, e.g., see separate control signals on lines S114 and S116) using the third control signal (output of 113) and the third voltage switching signal.

As to claim 4;

The power supply apparatus as defined in claim 3, wherein at least one of the plurality of series regulators is a low-current-consuming series regulator that consumes less power less than the rest of the plurality of series regulators and the controller activates the low-current-consuming series regulator in a low-consuming-current mode of the apparatus (the first and the second series regulators 130 and 150 each share different loads and therefore by definition one of the two has a lower consumption of power).

6. A power supply apparatus, comprising: switching regulating

means for performing start and stop operations in response to a first control signal and generating a first constant voltage in response to a first voltage switching signal to output the first constant voltage; series regulating means for performing start and stop operations in response to a second control signal and generating a constant voltage in response to a second voltage switching signal to output the constant voltage; and controlling means for generating the first and second control signals and the first and second voltage switching signals, controlling the switching regulating means and the series regulating means to simultaneously operate for at least a predetermined time period using the first and second control signals, respectively, and controlling the switching regulating means and the series regulating means such that the first output voltage of the switching regulating means is greater than the second output voltage of the series regulating means using the first and second voltage switching signals.

7. The power supply apparatus as defined in claim 6, wherein the controlling means generates a third control signal and a third voltage switching signal.

8. The power supply apparatus as defined in claim 7, wherein the series regulating means includes a plurality of series regulating means, and the controlling means selectively activates the plurality of series regulating means using the third control signal and the third voltage switching signal.

9. The power supply apparatus as defined in claim 8, wherein at least one of the plurality of series regulating means is a low-current-consuming series regulating means for consuming less power than the rest of the plurality of series regulating means and the controlling means activates the low-current-consuming series regulating means in a low-consuming-current mode of the apparatus.

11. A power supply method, comprising the steps of: generating a first control signal for turning on and off a switch regulator; generating a second control signal for turning on and off a series regulator; controlling the first and second control signals to activate the switching regulator and the series regulator in at least a predetermined time period; generating a first voltage switching signal for turning on and off the switch regulator; generating a second voltage switching signals for turning on and off the series

regulator; and controlling the first and second voltage switching signals such that the first output voltage of the switching regulator is greater than the second output voltage of the series regulator.

12. The power supply method as defined in claim 11, wherein the series regulator includes a plurality of series regulating circuits and the first and second controlling steps selectively activate one of the plurality of series regulating circuits.

13. The power supply method as defined in claim 12, wherein at least one of the plurality of series regulating circuits is a low-current-consuming series regulating circuit which consumes less power than the rest of the plurality of series regulating circuits and the first and second controlling steps activate the low-current-consuming series regulating circuit in a low-consuming-current mode of the apparatus.

14. A power supply method, comprising the steps of: generating a first control signal for turning on and off a switch regulator; generating a second control signal for turning on and off a series regulator; generating a first voltage switching signal for turning on and off the switch regulator; generating a second voltage switching signal for turning on and off the series regulator; and controlling the first control signal and the first voltage switching signal to activate the switching regulator and the second control signal and second voltage switching signal to activate the series regulator, wherein the control step controls the first and second control signals to activate the switching regulator and the series regulator for at least a predetermined time period.

15. The power supply method as defined in claim 14, wherein the controlling step controls the first and second voltage switching signals such that the first output voltage of the switching regulator is greater than the second output voltage of the series regulator.

16. A power supply method, comprising the steps of: generating a first control signal for turning on and off a switch regulator; generating a second control signal for turning on and off a series regulator; generating a first voltage switching signal for turning on and off the switch regulator; generating a second voltage switching signals for turning on and off the series regulator; and controlling the first control signal and the first voltage switching signal to activate the switching regulator and the second control signal and second voltage switching signal to activate the series regulator,

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wherein the controlling step controls the first and second voltage switching signals such that an output voltage of the switching regulator is greater than an output voltage of the series regulator.

Note that applicants are presumed to have knowledge of their art and therefore may be expected to recognize, e.g., what a control signal would be. Further, differences should be pointed out not between disclosure and the prior art but what is claimed and the prior art. The rejection of the instant invention did not rely on the disclosure but the claims in light of the disclosure. That is, the rejection is based heavily on what the claims state and not solely on what the disclosure discloses. As recited, the claims are anticipated by the disclosure of the prior art.

Allowable Subject Matter

3. No claims are allowable over the prior art of record.

Conclusion

Any inquiry from other than the applicant/attorney of record concerning this communication or earlier communications from the Examiner should be directed to the Patent Electronic Business Center (EBC) at 1.866.217.9197. Any inquiry from a member of the press concerning this communication or earlier communications from the Examiner or the application should be directed to the Office of Public Affairs at 703.305.8341. Any inquiry from the

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applicant or an attorney of record concerning this communication or earlier communications from the Examiner should be directed to Examiner Riley whose telephone number is 571.272.2083. The Examiner can normally be reached Monday through Thursday from 7:30-6:00 p.m. Eastern Standard Time. The Examiner's Supervisor is Mike Sherry who can be reached at 571.272.2084. Any inquiry about a case's location, retrieval of a case, or receipt of an amendment into a case or information regarding sent correspondence to a case **should be directed to 2800's Customer Service Center** at 571.272.2815. Any papers to be sent by fax MUST BE sent to fax number **571-273-8300**. Any inquiry of a general nature of this application should be **directed to the Group receptionist** whose telephone number is 571.272.2800. Status information of cases may be found at <http://pair-direct.uspto.gov> wherein unpublished application information is found through private PAIR and published application information is found through public PAIR. Further help on using the PAIR system is available at 1.866.217.9197 (Electronic Business Center).

December 2005



Shawn Riley
Primary Examiner